

# HGV Fleet Compliance Check 2010

## Final Report

In House Analytical  
Consultancy

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The following annexes are provided in a separate file:

- Annex A: Terms of Reference
- Annex B: Methodology
- Annex C: 2010 Check Form
- Annex D: Detailed Results

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## Chapter 1: Management Summary

### 1.1 Introduction

The aim of the HGV Fleet Compliance Check (FCC) was to determine the roadworthiness and traffic compliance of GB registered vehicles and trailers.

The survey was designed by the Department for Transport's In House Analytical Consultancy (IHAC) and carried out by the Vehicle & Operator Services Agency (VOSA). It is the 12<sup>th</sup> similar survey carried out, and the last was undertaken in 2008.

VOSA stopped and checked 3676 randomly selected GB-registered heavy goods vehicles (HGVs) and 1745 trailers during the 2010 HGV FCC. The checks were carried out at randomly selected sites and times across Great Britain during the period April 6th to June 11th 2010. Check results were recorded on paper forms and in the electronic Mobile Compliance system. IHAC transferred the resulting paper data into an electronic database, analysed the data collected and summarised the results into this report. Details on the statistical accuracy of the check can be found in Annex B.

### 1.2 Vehicle Defects

Of the 3609 vehicles checked for roadworthiness defects in the 2010 survey:

- 10.4% of vehicles were issued with prohibitions (2.5% immediate; 7.9% delayed)
- A further 13.9% warranted an inspection notice
- 75.7% had no roadworthiness defects
- £450 was also collected in Graduated Fixed Penalty Deposits from seven drivers due to immediate prohibitions on their vehicles.

The confidence intervals on the prohibition rate show that the true rate of prohibitions lies between 9.0% and 11.7% (i.e. 10.4% +/- 1.3%).

The prohibition rate was similar to the previous check in 2008 (where the rate was 9.8%), though there were significantly more inspection notices in 2010 than 2008.

Even though the prohibition rate has not decreased further from 2008, the decreasing trend in the prohibition rate identified in the 2008 report still holds. The trend suggests a drop in the prohibition rate of 0.54% per year.

Faults on 'Brake Systems & Components' were the most common defects recorded, accounting for 30% of all prohibitions.

Many factors affected vehicle condition. In particular, age was the most important factor affecting the prohibition rate, followed by area, body type and then weight.

The average number of defects found on a vehicle (where a defect was detected) by year has dropped at an average rate of 0.04 per year over the fourteen year period.

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## 1.3 Trailer Defects

47.5% of the vehicles in the survey were towing a trailer. Of the 1712 trailers checked for roadworthiness defects:

- 13.3% of trailers were issued with prohibitions (4.9% immediate; 8.4% delayed)
- A further 7.5% warranted an inspection notice
- 79.3% had no roadworthiness defects
- £120 was also collected in Graduated Fixed Penalty Deposits from two drivers due to immediate prohibitions on their trailers.

The confidence intervals on the prohibition rate show that the true rate of prohibitions lies between 10.6% and 16.0% (i.e. 13.3% +/- 2.7%).

The prohibition rate was significantly worse than in the previous check in 2008 (where the rate was 10.9%).

There was no trend in the trailer prohibition rate over the last 14 years

Faults on 'Brake Systems & Components' were the most common defects recorded, accounting for 26% of all prohibitions

Several factors affected trailer condition. In particular, age was the most important factor affecting the prohibition rate, followed by area of the check.

There was no discernable trend in the average number of defects found on trailers across the years.

## 1.4 Traffic Offences

Of the 3440 vehicles checked for traffic offences in the 2010 survey:

- 12.4% of drivers / operators were committing serious traffic offences (2.1% reported for prosecution; 10.2% other serious offences)
- A further 2.3% warranted a verbal warning
- 85.3% were not found to be committing any traffic offences
- £11,470 was also collected in Graduated Fixed Penalty Deposits from 86 drivers.

The confidence intervals on the serious offence rate show that the true rate of serious offences lies between 10.5% and 14.2% (i.e. 12.4% +/- 1.9%).

The serious offence rate was similar to the previous check in 2008 (12.5%), though significantly worse than all other checks.

There was a significant upward trend in the proportion of drivers / operators committing a serious offence since 1999. The trend suggests a rise in the serious offence rate of 0.69% per year.

Tachograph and Drivers Hours were the most common offences, accounting for at least 59% of all serious offences.

Many factors affected the level of serious traffic offences. In particular, age was the most important factor, followed by area and vehicle weight.

## Chapter 2: Introduction

### 2.1 Background

The 2010 GB HGV Fleet Compliance Check (HGV FCC) follows on from the 2008 GB HGV Fleet Compliance Check and is the 12<sup>th</sup> such check that the Vehicle and Operator Services Agency (VOSA) has carried out. Checks were carried out annually from 1997 to 2006, and since then the checks have been carried out bi-annually.

The GB HGV Fleet Compliance Checks are carried out in order to determine both the level of roadworthiness across the Great Britain HGV fleet and the overall level of HGV Operator compliance with traffic regulations.

Separate surveys consider the roadworthiness and traffic compliance of vehicles and trailers registered outside Great Britain travelling on GB roads. Their results are not discussed here.

VOSA has three major reasons for sponsoring this survey:

- to determine trends in non-compliance with regulations and roadworthiness to gauge the effects of changes in legislation, and the effectiveness of VOSA's day-to-day targeted operations;
- to provide information to help identify potential areas for targeting, so that VOSA's work can be more focused; and
- to compare differences in condition and compliance between GB and non-GB vehicles.

The 2010 check took place between 6th April and 11th June 2010. A total of 3676 HGVs and 1745 trailers were checked for roadworthiness defects and traffic offences by VOSA examiners at roadside inspections (though not every vehicle was checked for condition and for compliance). The check sites were agreed between IHAC and VOSA's enforcement areas to provide a good coverage of HGV operations. IHAC developed the methodology and analysed the results of the checks.

During the check the examiner recorded basic details on a paper form and entered full details and the check results into the Mobile Compliance system. After the checks had been carried out, IHAC entered the information on the paper forms into an electronic database. These forms were then matched to the mobile compliance records from VOSA.

In this report, the term 'vehicle' generally refers to the tractor unit or rigid vehicle only, and not the vehicle and trailer combination.

### 2.2 Methodology

A description of the methodology used for the analysis is given in Annex B.

The results chapters below all show a list of the combination of factors that was best related to vehicle condition (section 3.2), trailer condition (section 4.2) and traffic offences (section 5.2). In order to help with targeting, the results chapters also present a table

showing the factors that were significant for all factors separately (sections 3.3, 4.3 and 5.3). For example, vehicle type and age are related (51% of articulated vehicles were aged three years or under compared to only 38% of rigid vehicles). However, it is easier to target a vehicle at the roadside based on its vehicle type than its age, as examiners can observe at a distance that a vehicle is articulated or rigid, whereas the examiner needs to be able to read the registration plate to work out the age (and even this is not possible if the vehicle has a cherished transfer plate).

This report is shorter than the report of the 2008 results. There is no longer a section for each vehicle/check characteristic, though tables and charts can be found in the annexes.

## 2.3 Accuracy

Each of the headline statistics that is quoted in this report has an associated uncertainty. That uncertainty is unavoidable and arises from the random sampling techniques that were used to carry out the survey. This report expresses that uncertainty in terms of two parameters: an accuracy level, plus a corresponding level of confidence.

Wherever a difference is said to be 'significant' it means that it can be stated with 95% confidence that the difference is not due to random sampling factors (i.e. the chance of observing such a difference, where there is none, is less than one in twenty). Details about the accuracy of the results can be found in Annex B.

The mix of check sites used had a reasonable match to the national profile of HGV traffic across different road types and across days of the week. However, problems were experienced in getting the correct mix of check sites to match the profile of HGV traffic across times of day. Examiners checked many more vehicles than expected in the morning but only checked two thirds of the required vehicles in the afternoon and half the required vehicles at night. This could have affected the accuracy of the results, but the time of day did not affect vehicle or trailer prohibitions, and had a limited impact on traffic offences. Therefore the accuracy was not affected. Further details are given in Annex B.

In some pie charts the percentages do not add up to 100 per cent; this is due to rounding the figures to 1 decimal place.

## 2.4 Notes about data

The age of the vehicle was taken from the vehicle registration mark. Therefore ages of vehicles with personalised plates could be incorrect.

Traffic offence categories have changed since the checks started in 1997 – such as the introduction of prohibition and ORN (Offence Rectification Notice) in 2003, and Graduated Fixed Penalty Deposits (GFPD) in 2010 (though GFPDs were usually only issued in addition to other outcomes). In addition, in 2010 the results of any further investigation were not known at the time of writing, so these cases have an offence category of RFI (Reported for Further Investigation). Therefore it was decided that a single category of "Serious Offences" should be used throughout most of this report. These changes to the traffic offence categories mean that it might not be strictly valid to compare serious traffic offences across all years.

In this report, 'serious offences' include those which result in at least one of:

- Report for Prosecution
- Report for Further Investigation
- Prohibition
- ORN (Offence Rectification Notice)
- GFPD (Graduated Fixed Penalty Deposits)
- Advisory letter
- Impounding

Where there was an offence recorded on the paper form that did not result in a prohibition or GFPD, the outcome of that offence was not always clear. Therefore in some cases assumptions had to be made about the likely outcome.

There was an option on the paper form to mark if a vehicle had been 'Immobilised'. This was used only once out of all 3676 vehicles. This vehicle also had GFPD offences but had no other reference to the immobilisation, and so in the data it is marked as GFPD. Two further vehicles had 'GIMP' written in the offences box – the GIMP (Goods Impounding) letter is used for impounding vehicles. One of these also had other prohibitions, and so is marked as prohibition in the offence outcome. The second had no other offences and has been marked as 'impounded' in the offence outcome.

11 dangerous goods inspection notices have been treated throughout this report as if the driver received a verbal warning – i.e. not a serious offence (note three drivers received dangerous goods prohibition notices, which were counted as serious offences).

Only 2% of checks resulted in a verbal warning being given for traffic offences. The lowest in any previous survey was 8%. The low rate in 2010 could be due to the survey methodology rather than an actual decrease in the number of drivers being given a verbal warning, as the survey did not ask anywhere specifically for 'verbal warnings', but instead asked for 'other offences'. It is possible some examiners did not think an offence resulting in a verbal warning was worth recording. Alternatively, it is possible some checks were mistakenly classified as serious offences, when they actually only resulted in a verbal warning. It is felt the first scenario is more likely, though both are possible. In addition, the changes to policy around the introduction of GFPDs means that some offences that would have received a verbal warning will now get a fixed penalty – and so VOSA would expect a decrease in verbal warnings.

## Chapter 3: Vehicles

### 3.1 Main Results

#### Key findings

- 10.4% of vehicles were issued with prohibitions (2.5% immediate; 7.9% delayed)
- 13.9% warranted an inspection notice; 75.7% had no roadworthiness defects
- Similar prohibition rate to the previous check in 2008, though more inspection notices
- A significant downward trend in the average number of prohibitions issued over the 14 year period
- Faults on ‘Brake Systems & Components’ were the most common defects found, accounting for 30% of all prohibitions
- Many factors affected vehicle condition
- Age was the most important factor, followed by area, body type and then weight

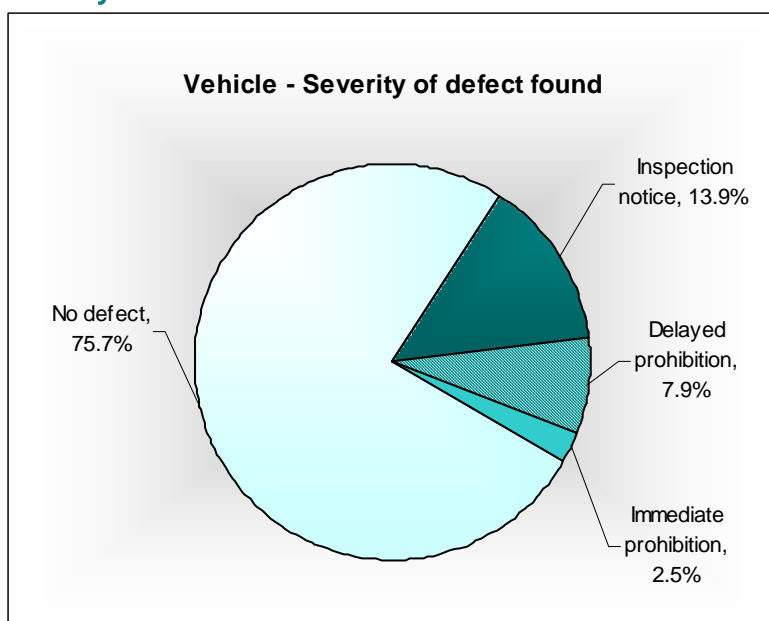
#### 3.1.1 Overall results

Of the 3676 vehicles stopped in the survey, examiners checked 3609 for mechanical defects.

2.5% of vehicles were issued with immediate prohibitions and 7.9% with delayed prohibitions. In total, 10.4% of the vehicles checked were found to have prohibitable defects.

13.9% of vehicles had a roadworthiness defect that warranted an inspection notice, but no prohibitable defect. 75.7% of all vehicles checked were free from roadworthiness defects. The following chart shows the proportion of vehicles with defects.

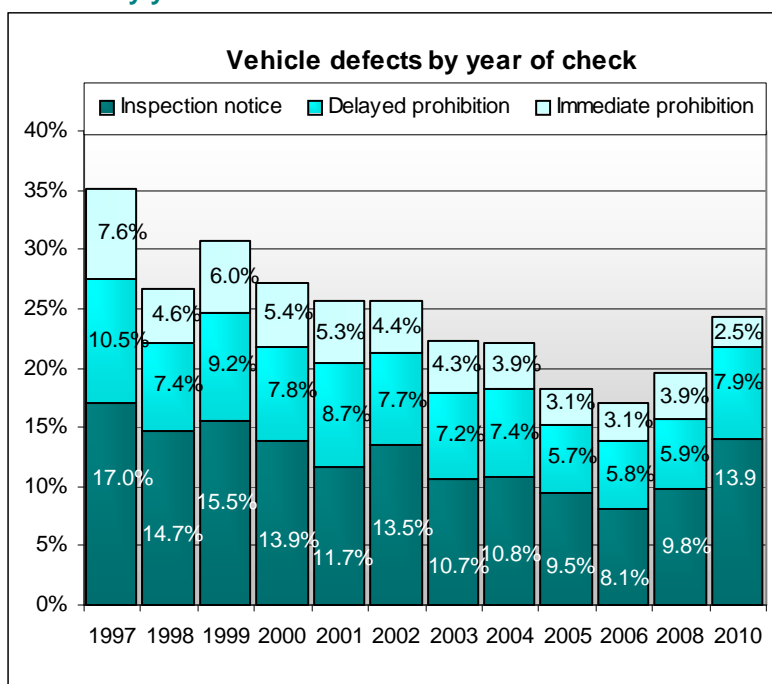
#### Severity of vehicle defects



Seven vehicles (0.2%) had a Graduated Fixed Penalty Deposit as well as immediate prohibitions. One was a £120 GFPD for a steered axle tyre tread below 1mm (IM8). Five were £60 GFPDs: three for wheel nuts loose (IM6), one for an exterior body panel likely to become detached (IM20), and one for tyre damage (IM8). The other GFPD was £30 for the driver’s view to the front being seriously impaired (IM23).

### 3.1.2 Year on year comparison

#### Defects by year of check



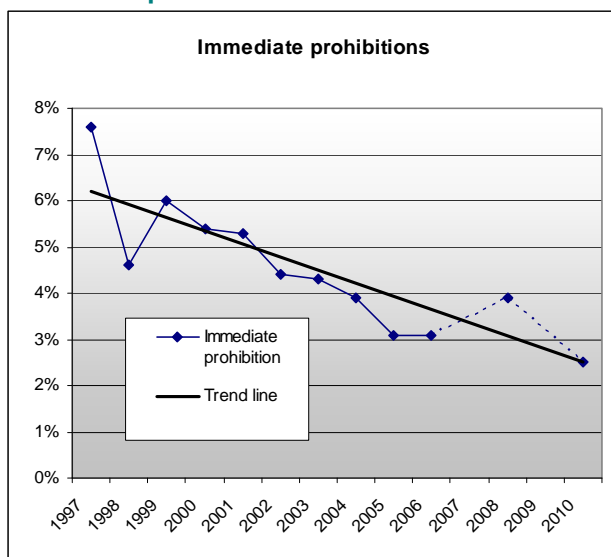
The proportion of prohibitions issued in four of the first five surveys were significantly higher than in other years, while the proportion of prohibitions issued in the last four surveys were significantly lower than in other years. In particular, 2010 was significantly lower than each year from 1997 to 2002, significantly higher than 2005 and 2006; and similar to 2003, 2004 and 2008.

The 2010 prohibition rate was similar to the rate in the last survey in 2008. In 2010 the prohibitions were generally less serious, as there were significantly more delayed prohibitions and significantly fewer immediate prohibitions. However, there were also significantly more inspection notices in 2010 than in 2008, so the overall defect rate was significantly worse in 2010 than the previous check in 2008.

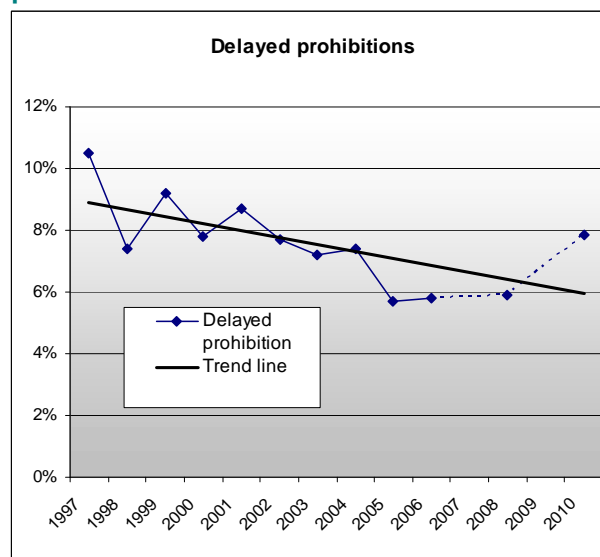
Furthermore, there was a statistically significant decreasing trend, suggesting a drop at an average rate of 0.54% ( $\pm 0.29%$  at the 95% confidence level) per annum in the number of vehicles being issued with prohibitions during the 14 year period the survey has been running.

The charts below show the proportion of vehicles issued with an immediate prohibition, delayed prohibition and inspection notice over the years.

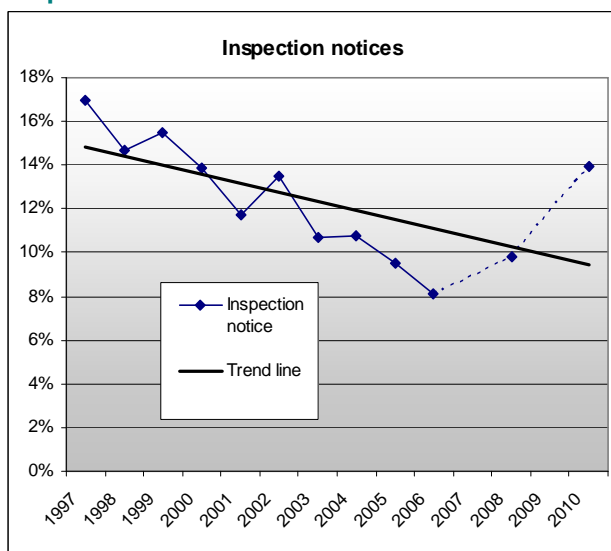
**Proportion of vehicles issued with an immediate prohibition**



**Proportion of vehicles issued with a delayed prohibition**



**Proportion of vehicles issued with an inspection notice**



### 3.1.3 Number of defects

98 immediately prohibitable defects were found across the 90 vehicles with immediately prohibitable defects. In total, 441 defects (immediate or delayed) were found across the 374 vehicles with at least one prohibitable defect.

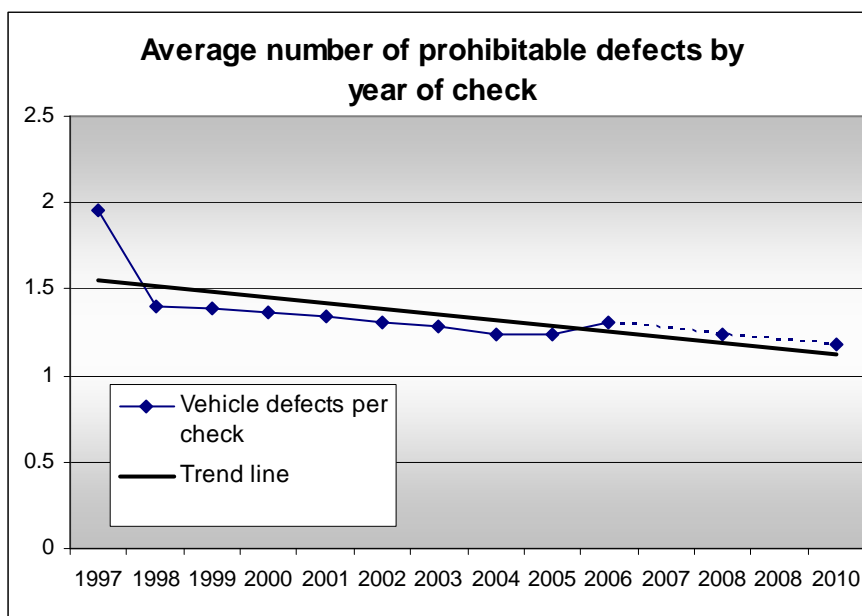
83 vehicles had one immediately prohibitable defect, 6 had two and a single vehicle had three immediately prohibitable defects. These vehicles may also have had delayed prohibitable defects.

318 vehicles had one defect (immediate or delayed), 46 had two, 9 had three and a single vehicle had four prohibitable defects. However, the highest number of defects found on a single vehicle was eight (two were prohibitable and six resulted in an inspection notice being issued).

The table below details the count of different numbers of prohibitable defects found in each year that the HGV FCC survey has been run. The highest number of prohibitable defects found on a single vehicle was 11 in 1997, compared to only four in 2010.

Year	Number of Defects Found											Total
	1	2	3	4	5	6	7	8	9	10	11	
1997	326	232	49	52	10	13	2	4	0	1	2	691
1998	287	73	33	6	0	1						400
1999	365	90	34	10	1	1						501
2000	451	96	34	9	4	1	0	1				596
2001	398	72	20	9	4	0	1	1	1			506
2002	324	57	16	9	2							408
2003	367	75	12	8	2							464
2004	422	75	16	3	1	0	1					518
2005	308	49	9	4	2							372
2006	245	47	11	4	2	1						310
2008	307	44	12	3	1	1						368
2010	318	46	9	1								374

The graph below plots the average number of vehicle defects, where a defect has been detected, by year of the HGV FCC check. The highest average number of defects was in 1997 (1.96) and the lowest was this year, 2010 (1.18). There was a significant downward trend with a drop of 0.04 (± 0.02 at the 95% confidence level).



### 3.1.4 Type of defects

Annex D contains a full list of the categories of prohibitable defects found on vehicles. The categories with the most total prohibitions (immediate and delayed) were:

- Brake Systems and Components (134 prohibitions or 30.4% of the total)
- Condition of Tyres (70 prohibitions or 15.9% of the total)
- Service Brake Operation (40 prohibitions or 9.1% of the total).

Four defect categories had similar numbers of immediate prohibitions:

- Direction Indicators and Hazard Warning Lamps (18 prohibitions or 18.4% of all immediate prohibitions),
- Condition of Tyres (17 prohibitions or 17.3%),
- Lamps (14 prohibitions or 14.3%), and
- Brake Systems and Components (13 prohibitions or 13.3%).

In both the 2008 and 2010 checks there were approximately 370 vehicles prohibited. However, in 2010 a higher proportion of the prohibitions issued to these vehicles were delayed: 78% were delayed compared to 55% in 2008. There were some specific defect categories that were more likely to be delayed in 2010 than in 2008. For example, in 2008, 34% of the 'Brake Systems & Components' prohibitions were immediate, but in 2010 only 10% were immediate. Similarly, in 2008 nearly a half of the wheel prohibitions ('Road Wheels & Hubs', 'Size & Type of Tyres' and 'Condition of Tyres') were immediate, but in 2010 only just over a quarter of these prohibitions were immediate.

In addition to changes in severity of defects between the two years, there were some defects that were more likely to have been detected either 2008 or in 2010. For example, in 2010 there were: 8 'Security of Body' prohibitions (none in 2008), 29 'Steering Mechanism' prohibitions (11 in 2008), and 40 'Service Brake Operation' prohibitions (24 in 2008). In 2008 there were: 7 'Speed Limiters' prohibitions (none in 2010), 22 'Glass & View of the Road' prohibitions (6 in 2010), and 46 'Suspension' prohibitions (22 in 2010).

## 3.2 Significant factors in predicting defects

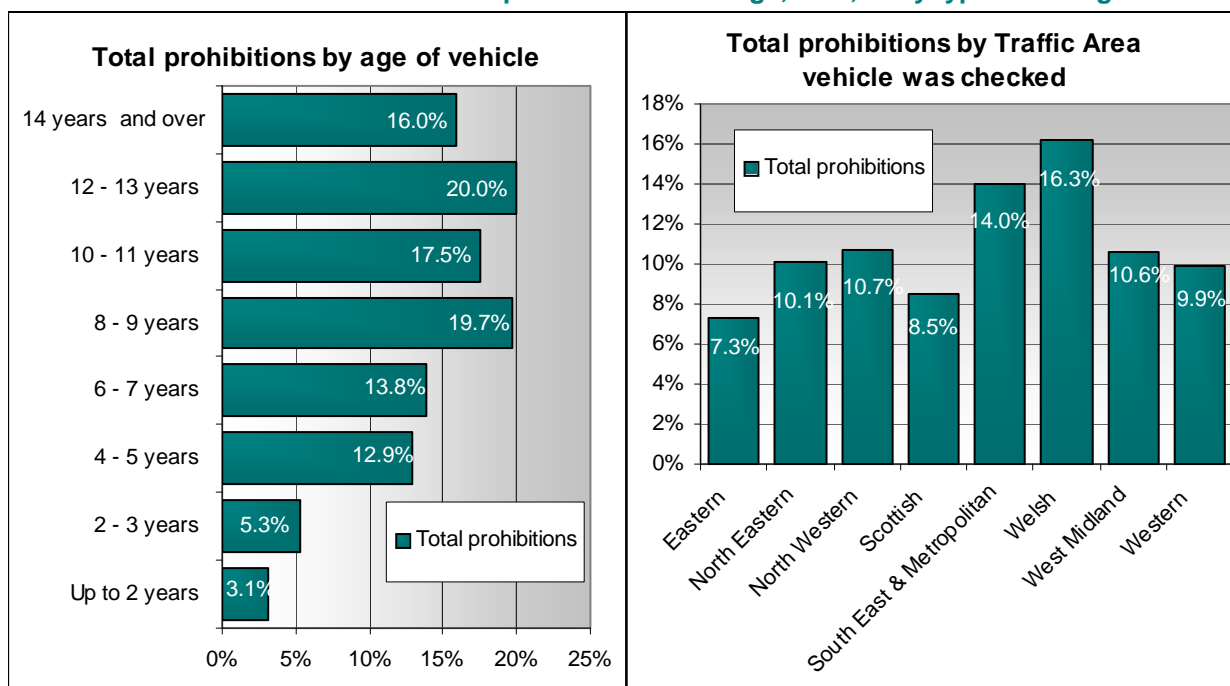
All vehicle / check characteristics were analysed together to look at the factors that affected the level of vehicle prohibitions. The significant factors were: age, area, body type, Operator traffic area, and weight. The list below shows the significant variables that affected the level of prohibitions, in decreasing order of importance. These variables together made up the best model to predict the outcome of an individual check.

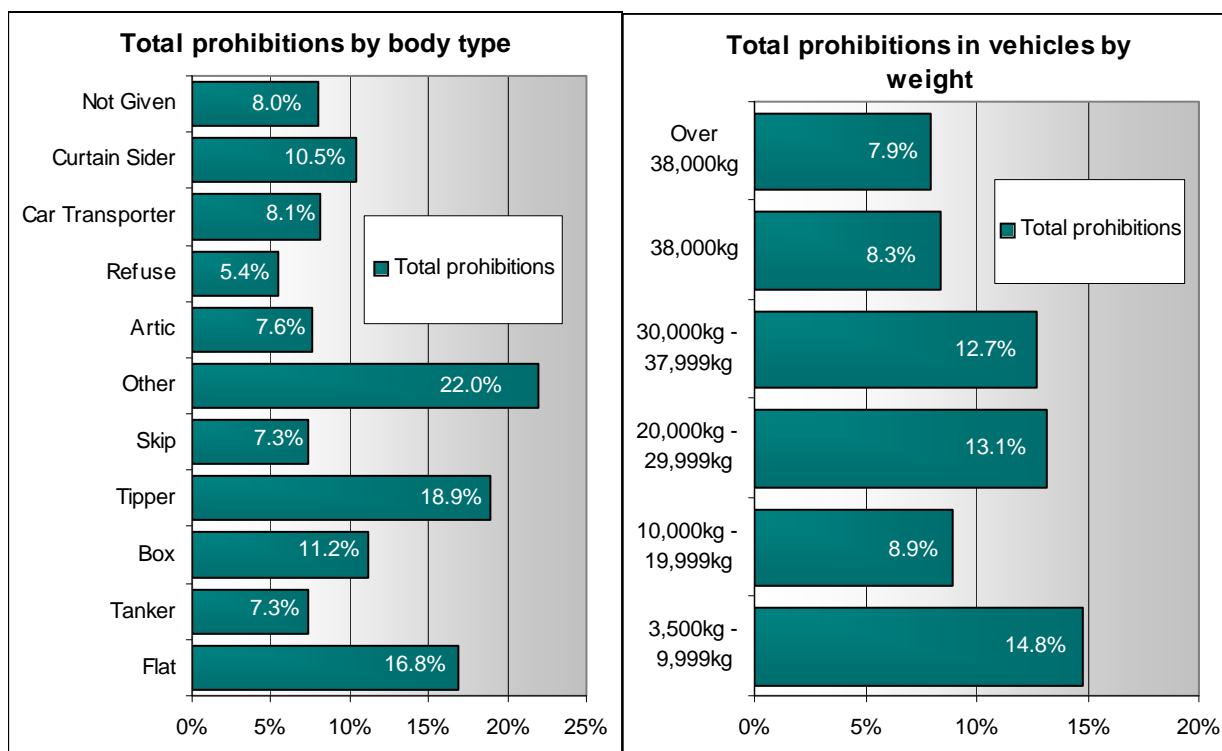
- Age (higher defect rate for older vehicles)
- Age 14+ (vehicles in this group better than expected once the worsening trend by age is accounted for)
- Area 18 – East Midlands (lower defect rate for vehicles checked in this area)
- Tipper (higher defect rate for vehicles of this body type)
- Age 4-5 (vehicles in this group worse than expected once all previous factors accounted for, including the worsening trend by age)
- Weight 3,500 to 10,000 kilograms (higher defect rate for vehicles with this weight)

- Welsh traffic area (higher defect rate for vehicles registered in this traffic area)
- Area 15 – Metropolitan (higher defect rate for vehicles checked in this area)
- Age 8-9 (vehicles in this group worse than expected once all previous factors accounted for, including the worsening trend by age)
- Age 6-7 (vehicles in this group worse than expected once all previous factors accounted for, including the worsening trend by age)
- Flat (higher defect rate for vehicles of this body type)
- Area 20 – Notts & South Yorks (lower defect rate for vehicles checked in this area)
- Tuesday (higher defect rate for vehicles checked on this day)
- Area 14 – South East (higher defect rate for vehicles checked in this area)
- West Midlands traffic area (higher defect rate for vehicles registered in this area)
- Area 23 – Tyne & Tees (higher defect rate for vehicles checked this area)

The charts below show the vehicle defect rate for the four most important variables: age, area, body type and weight (traffic area is used instead of enforcement area, as it is difficult to show 23 areas together).

**Vehicle defect rate for the four most important variables: age, area, body type and weight**





### 3.3 Individual factors

As well as the analysis above focussing on all factors together, each individual factor was taken in turn and tested to see whether it was linked to the level of vehicle prohibitions, as shown in the table below. Note that the variables are related and this table does not try to take account of this – see introduction section 2.2 for further details.

Factor	Significantly higher	Significantly lower
<b>Age</b>	Older vehicles (4 and over)	Younger vehicles (3 or under)
<b>VOSA Area *</b>	Area 15, Area 9	Area 18, Area 20, Area 2
<b>Traffic Area of Check</b>	South East & Met, Welsh	Eastern
<b>Traffic Area of Operator</b>	Welsh	Eastern
<b>Vehicle Axles</b>	4-5 Axles	3 Axles
<b>Vehicle Type</b>	Rigid	Articulated
<b>Body Type</b>	Tipper, Flat, Other	Artic
<b>Existence of a trailer</b>	No trailer	Trailer present
<b>Road Type</b>		Trunk Non-Built Up
<b>Day</b>		Sunday
<b>Weight</b>	Lighter vehicles: esp. 3,500-10,000 KGs	Heavier vehicles: esp. 40,000-44,000 KGs, 44,000 KGs and over

\* Areas higher than average: Metropolitan (Area 15), Wales (Area 9)

\* Areas lower than average: East Midlands (Area 18), Nottinghamshire & South Yorkshire (Area 20), West & Southwest Scotland (Area 2)

The following factors were not significant in predicting vehicle defects:

- Time Period
- Road Density
- Whether or not carrying Hazardous Chemicals
- Whether the driver was a GB driver or not

## Chapter 4: Trailers

### 4.1 Main Results

#### Key findings

- Just under half the vehicles were towing a trailer (47.5%)
- 13.3% of trailers were issued with prohibitions (4.9% immediate; 8.4% delayed)
- 7.5% warranted an inspection notice; 79.3% had no roadworthiness defects
- Faults on ‘Brake Systems & Components’ were the most common defects, accounting for 26% of all prohibitions
- Significantly worse prohibition rate than previous check in 2008
- No significant trend in the prohibition rate over the 14 year period
- Several factors affected trailer condition
- Age was the most important factor, followed by area

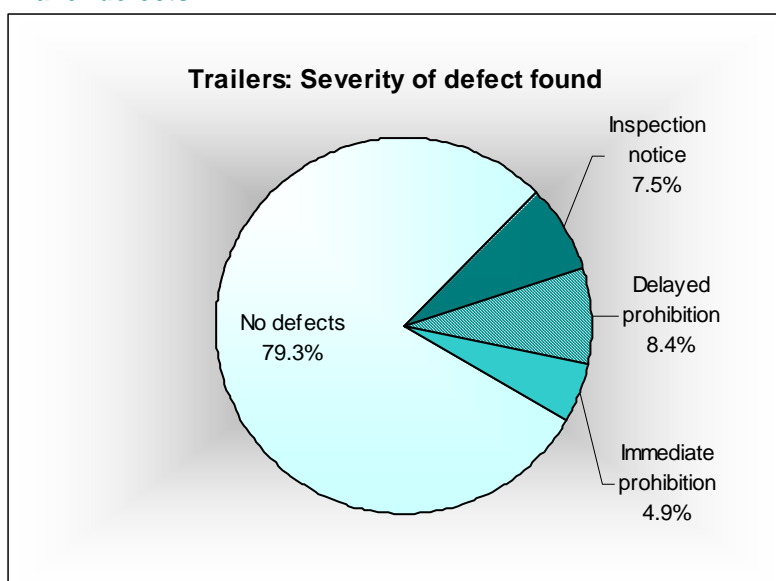
#### 4.1.1 Overall results

1745 trailers were being pulled by the 3676 vehicles stopped in the survey. Of these, examiners checked 1712 for mechanical defects.

4.9% of trailers were issued with immediate prohibitions and 8.4% with delayed prohibitions. In total, 13.3% of the trailers checked were found to have prohibitable defects.

7.5% of trailers had a roadworthiness defect that warranted an inspection notice, but no prohibitable defect. 79.3% of all trailers checked were free from roadworthiness defects. The chart below shows the severity of defects found on trailers.

#### Trailer defects

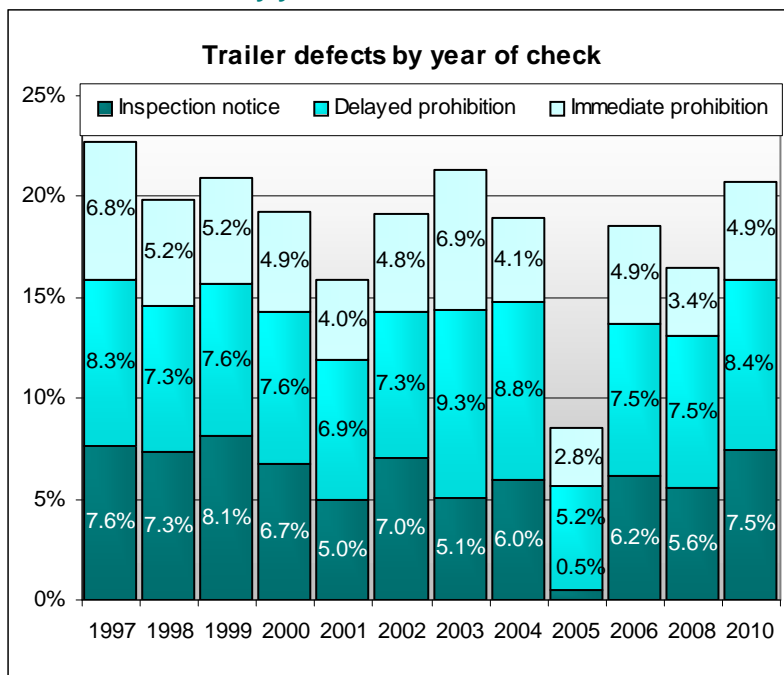


Two trailers (0.1%) had a Graduated Fixed Penalty Deposit as well as immediate prohibitions. One was a £60 GFPD for a trailer parking brake (IM12), and the other was also £60 but for wheel nuts being loose (IM6).

### 4.1.2 Year on year comparison

The chart below shows the defect rate for trailers, by year of check.

Trailer defect rate by year



There was no statistically significant trend in the prohibition rate across the years.

The 2010 result was not significantly different from the average across all years, but was significantly better than 2003; and significantly worse than 2001, 2005 and the last check in 2008.

### 4.1.3 Number of defects

88 immediately prohibitible defects were found across the 84 trailers with immediately prohibitible defects. In total, 278 defects (immediate or delayed) were found across the 227 trailers with at least one prohibitible defect.

80 trailers had one immediately prohibitible defect and four trailers had two immediately prohibitible defects. These trailers may also have had delayed prohibitible defects.

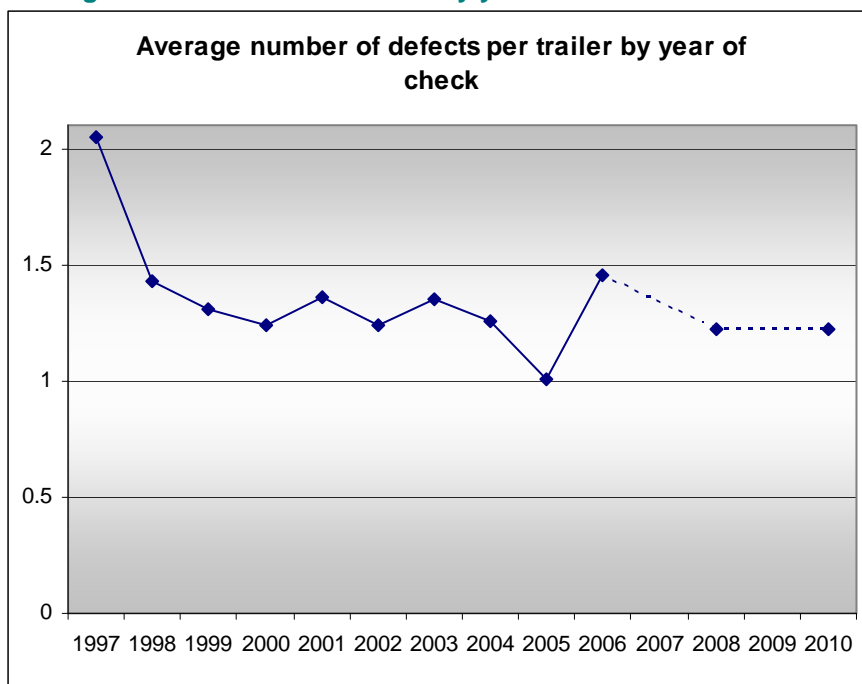
184 trailers had one defect (immediate or delayed), 36 had two, 6 had three and a single trailer had four prohibitible defects. A further five trailers also had four defects warranting a combination of prohibitions and inspection notices.

The table below details the count of different numbers of defects found in each year that the HGV FCC survey has been run. The highest number of defects found on a single trailer was 20 in 1997, compared to only four in 2010.

Year	Number of Defects Found												Total
	1	2	3	4	5	6	7	8	9	10	13	20	
1997	128	92	22	23	3	2	1	2	0	1	1	1	275
1998	124	46	8	1	2	1							182
1999	142	27	7	5									181
2000	176	33	7	2									218
2001	128	26	6	3	2	1							166
2002	135	24	5	2									166
2003	197	41	13	5	1	1							258
2004	202	30	8	1	0	1	0	0	1				243
2005	127	1											128
2006	129	32	10	3	0	1	1	0	1				177
2008	155	24	4	3									186
2010	184	36	6	1									227

The graph below plots the average number of prohibitable trailer defects, where a prohibitable defect has been detected, by year of the HGV FCC check. The highest average number of defects was in 1997 (2.05) and the lowest was year 2005 (1.01). In 2010 the rate was 1.22 defects per defective vehicle – the same as 2008. There was not a significant trend in the number of prohibitable defects per defective trailer over the years.

Average number of trailer defects by year



### 4.1.4 Type of defects

Annex D contains a full list of the categories of prohibitable defects found on trailers. The categories with the most total prohibitions (immediate and delayed) were the same as for vehicles:

- Brake Systems and Components (73 prohibitions or 26.3% of the total),
- Condition of Tyres (51 prohibitions or 18.3% of the total), and
- Service Brake Operation (43 prohibitions or 15.5% of the total).

Four defect categories had similar numbers of immediate prohibitions. These were the same four categories as for vehicles, though in a different order:

- Condition of Tyres (15 prohibitions or 17.0% of all immediate prohibitions),
- Direction Indicators and Hazard Warning Lamps (13 prohibitions or 14.8%),
- Lamps (11 prohibitions or 12.5%), and
- Brake Systems and Components (10 prohibitions or 11.4%).

As with vehicles, prohibitions in 2010 were more likely to be delayed than immediate when compared to 2008. There was almost exactly the same number of immediate prohibitions in both years, but the number of delayed prohibitable defects increased by over a third in 2010. In particular, a higher proportion of 'Brake Systems & Components', 'Suspension', and 'Service Brake Operation' prohibitions were delayed in 2010 than 2008. The main exception was 'Condition of Tyres', which went from 19% of prohibitions being immediate in 2008 to 29% immediate in 2010.

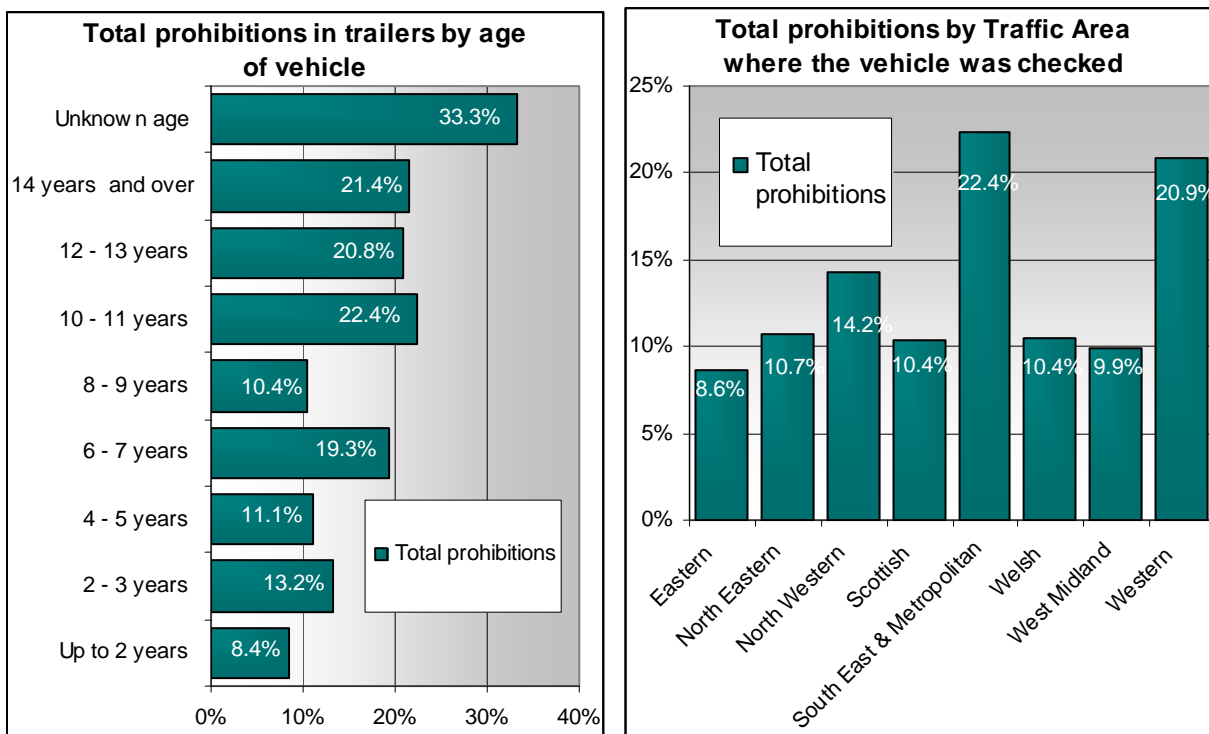
## 4.2 Group of factors with best relationship to trailer defects

All vehicle / check characteristics were analysed together to look at the factors that affected the level of trailer prohibitions. The significant factors were: age, area, traffic area of check, number of trailer axles and day of the week. The list below shows the significant variables that affected the level of prohibitions, in decreasing order of importance. These variables together made up the best model to predict the outcome of an individual check.

- Age (higher defect rate for older trailers)
- South East and Met traffic area (higher defect rate for trailers checked in this area)
- Area 18 – East Midlands (lower defect rate for trailers checked in this area)
- Area 8 – Central & South West Midlands (lower defect rate for trailers checked in this area)
- Area 3 – South East Scotland (lower defect rate for trailers checked in this area)
- Area 11 – South West (higher defect rate for trailers checked in this area)
- Area 20 – Notts. & South Yorks. (lower defect rate for trailers checked in this area)
- 1 or 2 trailer axles (lower defect rate for trailers with this many axles)
- Sunday (lower defect rate for trailers checked on this day)

The charts below show the trailer defect rate for the two most important variables: age and area (traffic area is used instead of enforcement area, as it is difficult to show 23 areas together).

Trailer defect rate for the two most important variables: age and area



### 4.3 Individual factors

As well as the analysis above focussing on all factors together, each individual factor was taken in turn and tested to see whether it was linked to the level of trailer prohibitions, as shown in the table below. Note that the variables are related and this table does not try to take account of this – see introduction section 2.2 for further details.

Factor	Significantly higher	Significantly lower
Age	Older vehicles, esp. 6-7 yrs, 10-11 yrs, 14+ yrs	Newer vehicles, esp. 0-1 yrs
VOSA Area *	Area 14, Area 11, Area 15	Area 18, Area 8, Area 3, Area 20
Traffic Area of Check	South East & Met, Western	Eastern
Traffic Area of Operator	Western	
Trailer Axles		1 Axle
Day		Sunday
Road Type		Primary Non-Built Up

\* Areas higher than average: South East (Area 14), South West (Area 11), Metropolitan (Area 15)

\* Areas lower than average: East Midlands (Area 18), Central & South West Midlands (Area 8), South East Scotland (Area 3), Nottinghamshire & South Yorkshire (Area 20)

The following factors were not significant in predicting trailer defects:

- Body Type
- Vehicle Type (articulated or rigid)
- Vehicle Axles
- Trailer Type (draw-bar or semi-trailer)
- Traffic Area of operator
- Time Period
- Weight
- Road Density
- Whether or not carrying Hazardous Chemicals
- Whether the driver was a GB driver or not

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## Chapter 5: Traffic Offences

### 5.1 Main Results

#### Key Findings

- 12.4% of drivers / operators were committing serious traffic offences (2.1% reported for prosecution; 10.2% other serious offences)
- 2.3% warranted a verbal warning; 85.3% found no traffic offences
- Similar serious offence rate to the previous check in 2008, though significantly worse than all other checks
- A significant upward trend in the proportion of drivers / operators committing a serious offence since 1999
- Tachograph and Drivers Hours were the most common offences, accounting for at least 59% of all serious offences
- Many factors affected the level of serious traffic offences
- Vehicle age was the most important factor, followed by area and vehicle weight

#### 5.1.1 Overall results

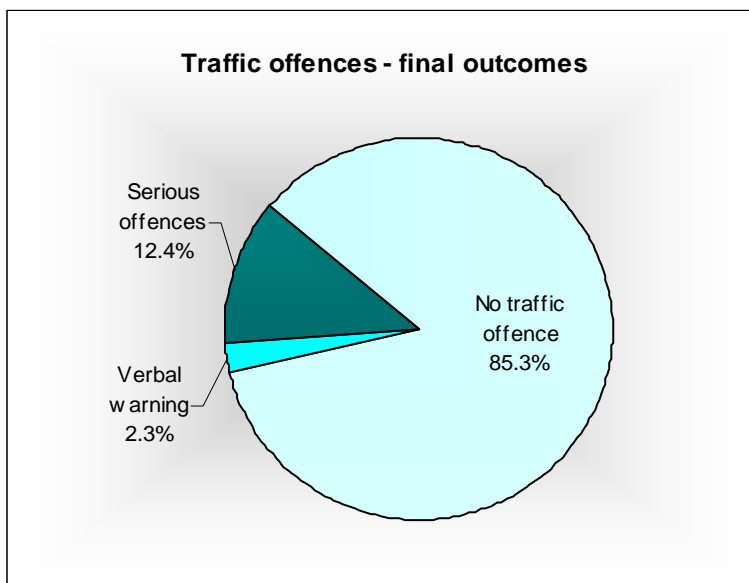
Of the 3676 vehicles stopped in the survey, examiners checked 3440 for traffic offences.

12.4% of drivers / operators were committing a serious traffic offence, of which 2.1% were reported for prosecution. 2.3% received a verbal warning (or dangerous goods inspection notice) for traffic offences, and 85.3% were not found to be committing traffic offences.

Graduated Fixed Penalty Deposits (GFPDs) were available to examiners for the first time. Of the 86 issued for traffic offences, less than one in six (14 GFPDs) were issued where there was no other offence outcome recorded. 6 of the 86 drivers issued with GFPDs had three GFPDs issued and a further 18 had two issued. Therefore, 116 GFPDs were issued for traffic offences to the 86 drivers, collecting a total of £11,470.

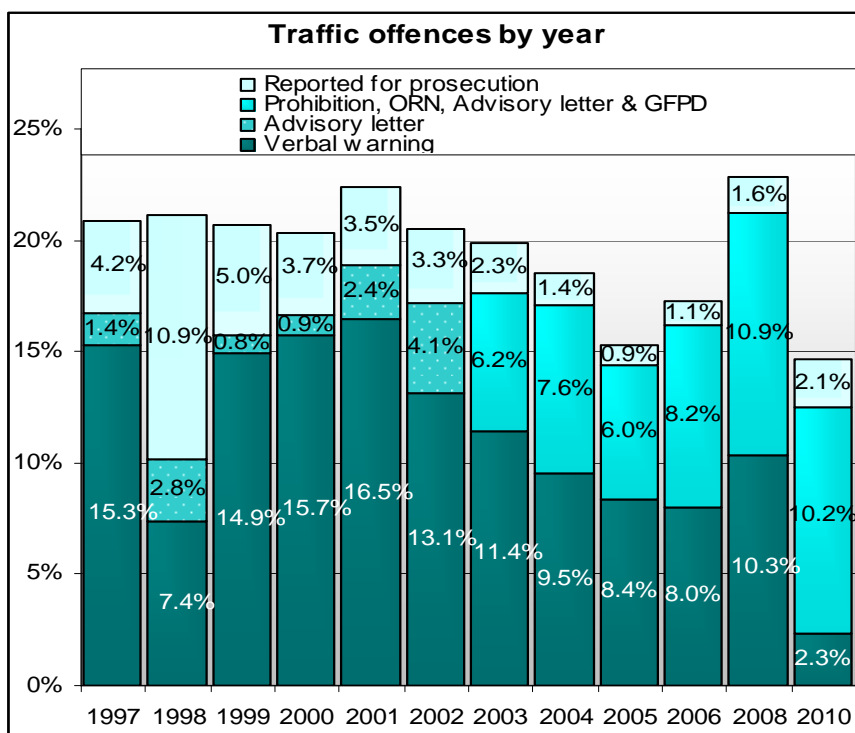
Where there was an offence, the outcome of that offence was not always as clear in this check as in previous years' checks. Therefore a guess had to be made about the likely outcome in some cases. For more information see introduction chapter. The chart below shows the outcome of all traffic offence checks.

Traffic offence severity



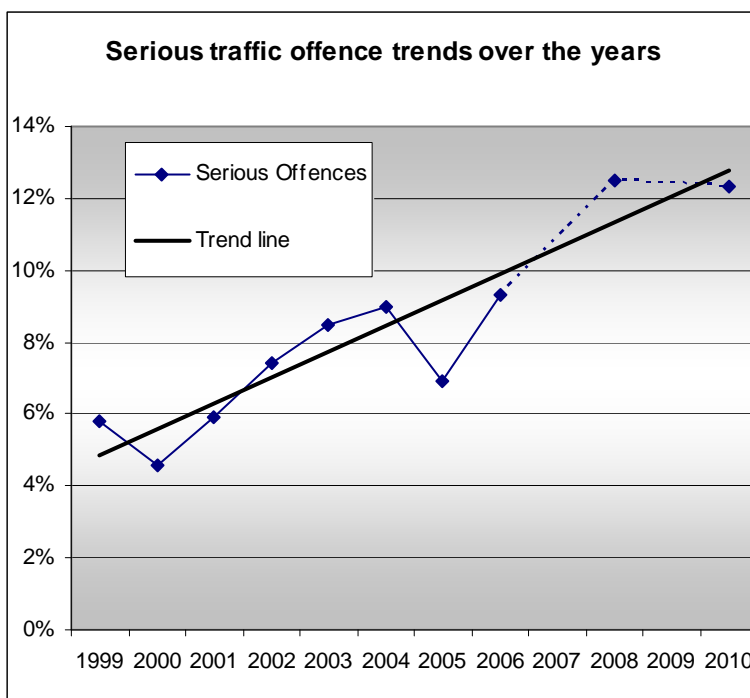
5.1.2 Year on year comparison

Severity of traffic offences by year of check



The proportion of serious offences committed in 2004, 2008 and 2010 was significantly higher than in other years, while the proportion in 1997, 1999, 2000, 2001, 2002 and 2005 was significantly lower than in other years. (There is a discrepancy in the rate for 1998). In particular, the rate seen in 2010 was significantly higher than every year except 2008. The reverse was true for the rate of verbal warnings given, which was significantly better in 2010 than every other year, however this could be due to the survey methodology (see introduction chapter 2).

There was a statistically significant increasing trend, suggesting a rise at an average rate of 0.69% ( $\pm 0.24\%$  at the 95% confidence level) per annum in the number of drivers / operators committing serious offences during the 12 years from 1999 to 2010 (there was a discrepancy in the rate for 1998 so the trend was calculated on the following years).



### 5.1.3 Number of offences

464 serious offences were found across the 425 checks with serious offences. In total, 565 offences (including verbal warnings) were found across the 504 checks with at least one offence.

387 checks revealed a serious offence in one offence category, 37 revealed two, and 1 check revealed serious traffic offences in three categories (Tachograph, Drivers Hours and Plating & Testing). These drivers may also have been given a verbal warning for other offences.

448 checks revealed an offence in one category (serious or resulting in a warning), 51 revealed two, and 5 revealed offences in three categories.

There are fewer offence categories than defect categories, so the number of offences per vehicle did not vary much between years. There were three checks across all years that revealed five serious traffic offences (one in 2004 and two in 2005), and nine that revealed four serious offences (including two in 2008). 2002 was the only year with a maximum of only two offences detected.

Year	Number of Offences Found					Total
	1	2	3	4	5	
1997	191	31	5	2		229
1998	180	30	6	1		217
1999	156	27	4	1		188
2000	170	31	6	2		209
2001	180	31	5	1		217
2002	224	26				250
2003	311	30	3			344
2004	377	24	7	0	1	409
2005	267	20	2	0	2	291
2006	292	26	4			322
2008	410	53	7	2		472
2010	387	37	1			425

### 5.1.4 Type of offence

Annex D contains a full list of the categories of offence found. 105 offences were marked as offence without showing what that offence was for – almost all of these were where there was an ‘Offence Prohibition Notice’ with no further detail.

The two categories with the most offences were tachograph and drivers hours. There were 136 serious offences of both of these, and for all offences (serious or resulting in a warning) there were 163 and 159 respectively. These two categories made up 58.6% of all serious offences, and 75.8% of all known serious offences (excluding 105 unknown offences noted above).

The other categories of offence included: Plating and Testing (42 serious offences; 43 total offences), Driver Licence (18 serious; 23 total), ‘Overloading’ (11 serious; 21 total), Illegal Operator / Other Operator Offences (11 serious; 13 total), ‘Other’ (5 serious; 36 total), and VED (1 serious; 2 total offences). There were no Dimensions and Limiters offences or Speed Limiter offences.

The 36 ‘Other’ offences were for:

- Dangerous goods inspection / prohibition notice (14)
- Centrefield detail / offences / errors / non-completion (7)
- Mode switch / trace / use (6)
- Record details of / Manual record of other duties (2)
- Unauthorised use (1)
- CLE 2/7 no current VEL (1)
- Head opening (1)

- Log book (1)
- Roc D5Y (1)
- Unauthorised withdrawal (1)
- Vehicle Length (1)

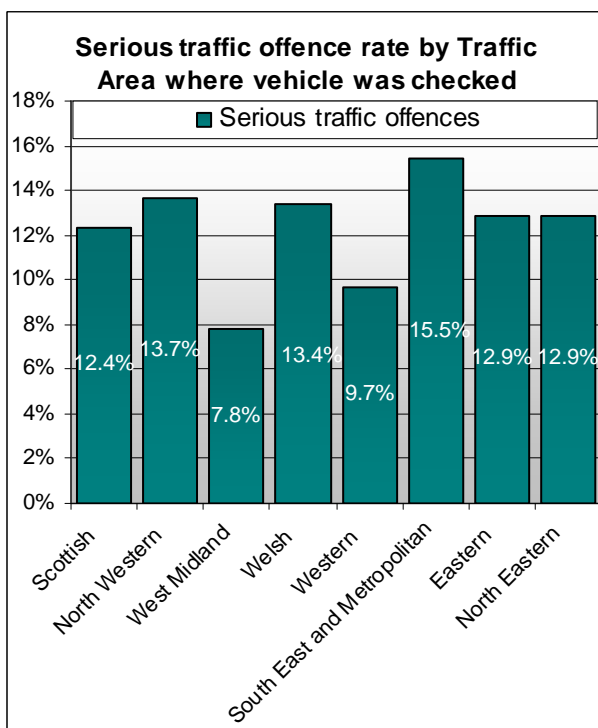
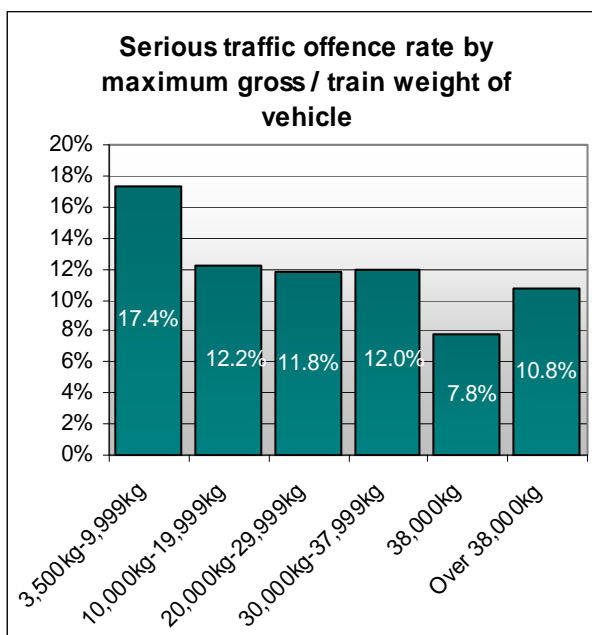
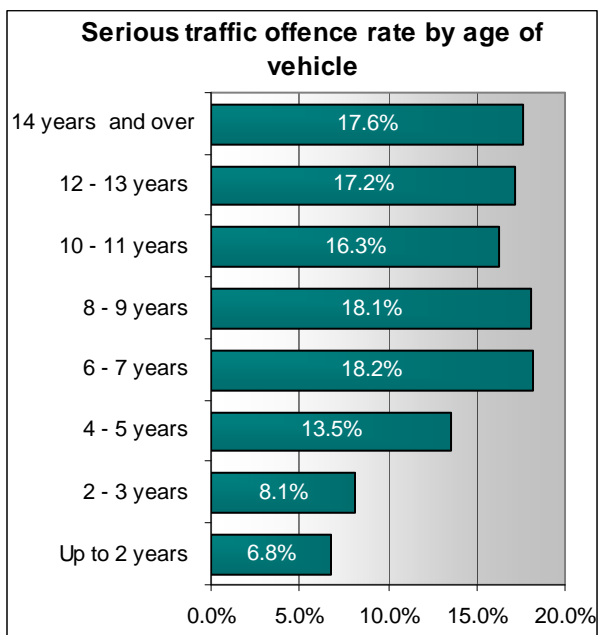
## 5.2 Significant factors in predicting defects

All vehicle / check characteristics were analysed together to look at the factors that affected the level of serious traffic offences. The significant factors were: age, area, and weight. The list below shows the significant variables that affected the level of prohibitions, in decreasing order of importance. These variables together made up the best model to predict the outcome of an individual check.

- Age (higher offences for older vehicles)
- Age 6-7 (vehicles in this group worse than expected once the worsening trend by age is accounted for)
- Area 6 – Merseyside & Cheshire (higher offences for vehicles from this area)
- Weight 3,500 to 10,000 kilograms (higher offences for vehicles with this weight)
- Area 23 – Tyne & Tees (higher offences for vehicles from this area)
- Area 14 – South East (higher offences for vehicles from this area)
- Area 16 – Hertfordshire & Essex (higher offences for vehicles from this area)
- Age 4-5 (vehicles in this group worse than expected once all previous factors accounted for, including the worsening trend by age)
- Age 8-9 (vehicles in this group worse than expected once all previous factors accounted for, including the worsening trend by age)
- Area 1 – Northern Scotland (higher offences for vehicles from this area)

The charts below show the serious traffic offence rate for the three most important variables: age, area and weight (traffic area is used instead of enforcement area, as it is difficult to show 23 areas together).

**Serious traffic offence rate for the three most important variables: age, area and weight**



**5.3 Individual factors**

As well as the analysis above focussing on all factors together, each individual factor was taken in turn and tested to see whether it was linked to the level of serious traffic offences, as shown in the table below. Note that the variables are related and this table does not try to take account of this – see introduction section 2.2 for further details.

<b>Factor</b>	<b>Significantly higher</b>	<b>Significantly lower</b>
<b>Age</b>	Older vehicles, esp. 6-7 yrs, 8-9 yrs, 14+ yrs	Newer vehicles, esp. 0-1 yrs, 2-3 yrs
<b>VOSA Area *</b>	Area 6, Area 23, Area 16	Area 4, Area 12, Area 8, Area 7
<b>Traffic Area of Check</b>	South East & Met	West Midlands
<b>Vehicle Axles</b>	2 Axles	3 Axles
<b>Vehicle Type</b>	Rigid	Artic
<b>Weight</b>	Lighter vehicles, esp. 3,500-10,000 KGs	Heavier vehicles, esp. 44,000 KGs and over
<b>Existence of a trailer</b>	No trailer	Trailer present
<b>Time Period</b>		Night (10pm-6am)
<b>Day</b>	Thursday	
<b>Road Type</b>	Trunk Built Up	Trunk Non-Built Up
<b>Road Density</b>	Built Up	Non-Built Up

\* Areas higher than average: Merseyside & Cheshire (Area 6), Tyne & Tees (Area 23), Hertfordshire & Essex (Area 16)

\* Areas lower than average: Cumbria & Lancashire (Area 4), Wessex (Area 12), Central & South West Midlands (Area 8), Staffordshire & Shropshire (Area 7)

The following factors were not significant in predicting traffic offences:

- Body Type
- Traffic Area of Operator
- Trailer Type
- Trailer Axles
- Whether or not carrying Hazardous Chemicals
- Whether the driver was a GB driver or not